

ENVIRONMENTAL ASSESSMENT

Nucor Steel Decatur, LLC

Application for Port Facility Expansion at Tennessee River Mile 297.5, Left Bank,
Wheeler Lake, Morgan County, AL

Department of the Army File No. 5393700

U.S. ARMY CORPS OF ENGINEERS
Nashville District, Regulatory Branch

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CHAPTER 1.0 Purpose and Need for Action

1.1 Background and Scope of Work. On May 18, 2006, Nucor Steel Decatur, LLC, PO Box 2249, Decatur, AL 35609, submitted applications for a Department of the Army (DA) permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA), and Tennessee Valley Authority (TVA) approval pursuant to Section 26a of the TVA Act. The application is for expansion of an existing loading dock, additional fleeting facilities, and dredging. The location of the proposed action is Nucor's existing terminal, along the Finley Island back channel of the Tennessee River Mile 297.5, Left Bank, Wheeler Reservoir, Morgan County, AL USGS Map: Jones Crossroads, AL, Lat: 34-40-00, Lon: 87-05-00.

The purpose of the work is to accommodate additional barge traffic generated by a shift in raw material sources. Nucor is completing a new facility located in the Caribbean that will produce direct reduced iron (DRI); DRI from this new facility will be shipped by barge via the Tennessee-Tombigbee Waterway beginning in early 2007 to Nucor's Decatur plant for further processing.

Nucor Steel currently operates a barge terminal with a dock and fleeting at this location within the Mallard-Fox Creek Industrial Park. The site is adjacent to the Alabama Department of Conservation and Natural Resources' (ADCNR) Mallard-Fox Creek Wildlife Management Area (WMA); see Appendix G. In 1983, TVA made 450 acres of land from the wildlife management area available for industrial development. The remaining 1,500 acres continued to be used for long-term wildlife management and other recreational uses. In 1995, the DA and Decatur-Morgan County economic development agencies conducted a navigation dredging project adjacent to the industrial area creating a 7,000-foot long x 350-foot wide new navigation channel with a finished bottom elevation of 536-feet mean sea level (MSL) (under Section 107 of the River and Harbor Act of 1960, as amended, which provides for development and construction of small navigation projects). Including Nucor, four barge terminals have subsequently been established along this dredged channel. The potential exists for one additional barge terminal facility to be developed along this channel.

In August 1995, Trico Steel Company, LLC (Trico) purchased 188.7 acres of former TVA land for construction of a recycled steel mill. The first private terminal was authorized at the port by TVA Section 26a Permit No. 6494 and DA Permit No. 53937-00 issued to Trico for a barge terminal and site specific dredging to bottom elevation 538-foot MSL (Appendix H). When Nucor purchased Trico in July 2002, the DA permits were transferred to Nucor Steel Decatur. TVA records acknowledged the transfer of ownership from Trico to Nucor. Currently, Decatur-Morgan County Port Authority (Port Authority), Boeing, and Independence Tube Corporation (ITC) also operate barge terminals within the park. The Independence Tube terminal is located on the adjacent upstream side of Nucor and the subject of TVA Section 26a Permit No. 92015 and DA permit No. 50641-00.

1.2 Existing Setting and Field Inspections and Meetings. The Nucor terminal site, which lies downstream of the Decatur industrial waterfront, occurs along a broad reach of the Tennessee River within the Ridge and Valley Physiographic Province of north-central Alabama. The region is characterized by forest and agricultural land. Surrounding public shoreland in Mallard-Fox and Swan Creek WMAs is largely dedicated to upland wildlife and waterfowl and other wetland wildlife management, respectively.

Two meetings have been conducted between the applicant, Corps and TVA regarding the project proposal. A pre-application meeting and field inspection was conducted on January 29, 2004. During permit processing, a meeting was held on August 1 and 2, 2006, resulting in the submittal of a revised application on September 12, 2006 (Appendix D).

1.3 Decision Required. TVA is a cooperating agency with the Corps in this environmental assessment (EA). Federal permits are required for the work; therefore, TVA and the Corps must decide on either issuance of the required permits for the proposal, issuance of permits with modifications or conditions, or deny the permits, pursuant to the following:

- Section 10 of the Rivers and Harbors Act - prohibits the alteration or obstruction of any navigable waters of the United States (U.S.) unless authorized by the Secretary of the Army acting through the Chief of Engineers; Tennessee River Mile 297.5 is a navigable water of the US as defined by 33 CFR Part 329.
- Section 301 of the CWA - prohibits the discharge of fill material into waters of the US unless authorized by the DA pursuant to Section 404 of the same Act; the Tennessee River at Mile 297.5 is a water of the U. S. as defined by 33 CFR Part 328.
- Section 26a of the TVA Act of 1933, as amended, prohibits the construction, operation, or maintenance of any obstruction in, on or along the Tennessee River System or its tributaries that affect navigation, flood control, or public lands or reservations without approval by TVA.

TVA must also decide whether to grant Nucor the necessary land rights to use 12.4 acres of inundated land owned by TVA adjacent to and fronting Nucor property for development of the port facility expansion.

1.4 Other Approvals Required. Other federal, state, and local approvals may be required for the proposed work. Before federal permits can be issued, certification must be provided by the Alabama Department of Environmental Management (ADEM), pursuant to Section 401(a)(1) of the CWA, that applicable water quality standards will not be violated by the work. ADEM issued the required certification on October 31, 2006, copy in Appendix E. Point of contact with the state is Tonya Mayberry, telephone (334) 394-4307.

CHAPTER 2.0 Public Involvement Process. After receipt of the application on May 18, 2006, Public Notice 06-54 was issued on May 26, 2006, to advertise the project (Appendix A).

Although the project scope has changed, the scope of the project was originally divided into three (3) areas of dredging and mooring cells as well as dock facilities as follows:

Area 1 – Nucor proposed to dredge 37,000 cubic yards (cub yd) yards of river bottom and add one (1) mooring cell (to five existing) in Area 1.

Area 2 – Nucor proposed to dredge 22,376 cub yd of river bottom and construct eight (8) mooring cells with fleeting for 48 barges in Area 2.

Area 3 – Nucor proposed to dredge 50,212 cub yd of river bottom and construct four (4) mooring cells with fleeting for 48 barges in Area 3.

Dock facilities - Nucor proposed to expand the length of the existing 74 foot wide dock from 350 feet to 890 feet. Nucor would add 150 feet to the west end of the dock and 390 feet to the east end of the dock. Also, Nucor proposed to construct a 50-foot x 60-foot scrap barge unloading dock downstream of the existing loading dock.

Dredge spoil was proposed to be placed on a previously used dredge spoil disposal area in the Mallard Fox Creek Industrial Park. This property is owned by the Decatur-Morgan County Port Authority.

However, since that time, on September 12, 2006, the applicant submitted a new application (see Appendix C) modified to address issues revealed during the public interest review. This modified proposal is the project addressed in this EA. The following is a summary of the revised proposal:

During a meeting on August 1, 2006, between TVA, DA, Port Authority and Nucor representatives, it was agreed that Area 3 would be dropped from the proposal, Area 1 would be slightly modified, and Area 2 and the fill and spoil disposal areas would be changed as described below. The proposed dock facilities changes remain as originally proposed.

Area 1– Nucor now proposes to dredge 57,136 cub yd of river bottom and add two (2) mooring cells (expansion of current 16 barges/5 mooring cells to 50 barges/7 mooring cells) in Area 1.

Area 2 – Nucor now proposes to dredge 63,564 cub yd of river bottom and construct six (6) mooring cells with fleeting for 37 barges in Area 2.

Fill – Nucor also now proposes additional fill for construction of mooring cells and dock expansion. Nucor would place 1081.55 cub yd of dredge spoil between elevations 550-feet MSL and 558-feet MSL in the Wheeler Reservoir flood control storage zone. This fill would also be in the published Tennessee River 100-year floodway. The City of Decatur has concluded that the placement of fill material in this location does not effect local floodplains regulations. A copy of the City's letter is included in Appendix B.

Spoil disposal – Nucor now proposes to dredge approximately 120,700 cub yd of spoil material from Wheeler Reservoir. The Decatur-Morgan County Port Authority did not grant permission for dredge spoil to be deposited on its previously advertised disposal site (Public Notice 06-54), preferring to retain the disposal capacity for other future site development. Nucor does not own or have rights of use to an upland site located outside of the 100-year floodplain large enough to accommodate the expected volume of dredge spoil. Instead, Nucor would dispose of this spoil material in a wetland area on its plant site. A portion of this spoil disposal area is located within the limits of the 100-year floodplain; however, this area was previously permitted for this use and wetland loss mitigated by measures implemented by Trico Steel (Appendix H).

In addition, the proposal also includes Nucor acquiring a license agreement from TVA over approximately 12.4 acres of inundated TVA fee-owned property under Wheeler Reservoir. This agreement will include permission to use portions of acquisition Tract Numbers WR-166, WR-84, and WR-81 for mooring and fleeting purposes, and for carrying out excavation necessary for such uses.

Comments Received in Response to Public Notice 06-54. In response to the notice, the following written comments were received (Appendix B):

Federal, state, and local agency comments.

a. In its September 1, 2006 letter, the Alabama Historical Commission (AHC) concluded that the proposed work would have no effect on National Register of Historic Places (NRHP) listed or eligible properties. AHC also had no objections to proceeding with the project provided work ceases should any archaeological resources be encountered during the conduct the project activities.

b. In its June 20, 2006, letter, the US Fish and Wildlife Service (USFWS) stated that based on their records and the best information available, it is their belief that there are no federally listed or proposed endangered or threatened plant or animal species in the impact area, and requirements of Section 7(c) of the Endangered Species Act of 1973, as amended, are fulfilled. No significant adverse effects to fish and wildlife, their habitats and human uses thereof are expected to result from the proposed work provided activities occur during low winter pool elevations, typically during the months of November through March.

c. On November 2, 2006, the City of Decatur signed and submitted a US Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program Elevation Certificate (Appendix B) stating that the project (placing the fill material into the floodplain) is in compliance with the zoning ordinance of the City of Decatur, and no city permit is required for the fill.

Internal Comments.

a. By memorandum dated September 22, 2006, TVA's Navigation Section provided the following comments:

Area 1 is an existing fleeting area with five mooring cells permitted for the fleeting of 16 barges on the upstream side. Plans are to construct two additional cells, each 21-foot diameter, lakeward of the existing cells as well as increasing the existing cells from 16-foot diameter to 21-foot diameter. After the proposed dredging, 34 additional barges would be able to fleet in Area 1 for a total of 50 barges. Except for the most lakeward mooring cell, each cell would hold 4 barges on the upstream side and 5 barges on the downstream side. The most lakeward mooring cell would only hold 5 barges on the downstream side, but no barges would be moored on the upstream side so as not to interfere with entrance to the Finley Island back channel.

Area 2 is proposed for the placement of six, 21-foot diameter mooring cells with a fleeting capacity of 37 barges. This area is located across the Finley Island back channel from Nucor's dock facilities and would require dredging. Each section would hold 4 barges on either side of the mooring cells, except for the most downstream mooring cell, which would hold 3 barges on the southwest side and 2 barges on the northeast side.

This site was field inspected on July 24, 2006 and viewed from the river by boat on August 2, 2006. So as not to interfere with the dredged back channel, TVA and the Corps requested that Nucor design their fleeting areas to provide at least 350 feet between fleeting Areas 1 and 2, or to the limits of the dredged channel. TVA and the Corps would also require fleeting in Area 2 not extend upstream beyond Nucor's property line (as it would extend into the reservoir). If implemented accordingly, and based on September 12, 2006 plans, the proposal would not interfere with navigation. Therefore, Nucor agrees to the following:

1. No fleeting would occur on the upstream face of the most lakeward mooring cell in Area 1 so as not to interfere with entrance to the back channel.
2. There would be a minimum of 350 feet between fleeting Areas 1 and 2 so as not to encroach upon the dredged limits of the back channel.
3. Fleeting in Area 2 would not extend upstream beyond Nucor's extended property line or downstream into the marked channel beyond the junction buoy.
4. The applicant is advised in writing that the facility would front on a commercial navigation channel at a location which makes the facility and any moored vessels vulnerable to wave wash and possible collision damage from passing vessels.
5. The 100-year flood elevation at this site is estimated to be 557.3 feet above MSL. The top elevation of mooring cells must be at least 5 feet above that elevation to ensure ample moorage of empty barges during a 100-year flood event.
6. The terminals shall have at least 10 feet of working depth at the minimum pool elevation 550.5, [11 feet is preferred].

b. By email dated October 17, 2006, the Corps' Navigation Branch stated that two public mooring cells are scheduled to be built in Decatur, located at along the left (descending) edge of the navigation channel at TRM 296.8. They are needed to temporarily tie up while waiting to enter the port of Decatur because of congestion due to greatly increased barge traffic since 2003. The Corps and TVA are presently working on the planning and permitting phases of this project. TVA has also begun an environmental review and assessment on the project. Construction is scheduled to start in the spring of 2007. See Section 3.4, navigation and safety, for a short description of the proposed public mooring cells.

General Public Comments.

a. By letter dated June 26, 2006, Edwards, Mitchell & Reeves, 123 Lee Street, N.E. Suite A, Decatur, Al 35601, representing Independence Tube Corporation, responded to the notice requesting a public hearing and expressing the following concerns: increases in the number of barges moored and barge traffic, and negative impacts on aesthetics, navigation, fishing, bird watching, hunting, water recreation, and safety. In addition, Sites 2 and 3 are located in front of land owned by Independence ITC and would likely interfere with ITC navigation into and out of its existing barge slip, impairs ITC's future barge storage, and is detrimental to plans for a boat ramp to be used by ITC's employees and encroaches into the boundaries of ITC.

b. By letter dated June 23, 2006, three individuals (Tim Vanderploeg, Don Moore, Tim Swoope) requested a public hearing and stated concerns of the overall effect of the proposed action on increased barge traffic, fishing, water recreation, and hunting.

c. Applicant Rebuttal. By email dated July 28, 2006, the applicant addressed the concerns of the general public comments. By new application dated September 12, 2006, the applicant modified the scope of work, currently under review (Appendix C). This proposal would allow for 17 fewer barges to be moored. Area 3 would not be constructed and no barge fleeting would occur over land fronting ITC. The opposing parties both received copies of the rebuttal and modified scope of work and were asked to provide further comments. No further comments were received.

CHAPTER 3.0 Environmental and Public Interest Factors Considered

3.1 Introduction. 33 CFR 320.4(a) states the decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Public Notice 06-54 (Appendix A) lists factors that may be relevant to the proposal and must be considered. The following sections discuss factors identified as relevant and provide a concise description of the anticipated impacts.

3.2 Physical/Chemical Characteristics and Anticipated Changes. The relevant blocks are checked with a description of the impacts.

(x) substrate. In a previous study, copy in Appendix G (dated June 1995 prepared by TVA prior to construction of the barge back channel), the substrate in subject location consisted of clay and silt that covered coarser material in the channel. Native mussel species were found on the substrate; however, these were likely removed during the channel dredging project. At this time, dredging below the fleeting areas and construction of the dock and mooring cells would remove or displace substrate; however, the structures would provide shading and additional areas below the river level for benthic colonization. The dredging activities would cause some mortality among immobile benthic organisms, including probably mollusks, but this mortality would be restricted to the general area of activity. Sedentary organisms would likely recolonize the area after construction is completed.

(x) currents, circulation or drainage patterns. The presence of additional cells and barges at the cells at this location would cause no adverse effects to circulation in this strong current section of the Tennessee River.

(x) suspended particulates, turbidity. The dredging activity and dock and cell construction would require some temporary river bottom disturbance; however, best management practices during construction would minimize turbidity (see Section 5.4 Recommended Special Permit Conditions and water quality section below). The river bank along the project shoreline has been partially armored with sheet piling and the proposed action involves the installation of additional sheet piling. Turbidity from the proposed action would be temporary and minimal and expected to settle a short distance downstream and soon after construction or dredging is completed.

(x) water quality. The water quality (temperature, color, odor, nutrients, etc) in the river channel would not be significantly impacted by construction and use of the proposed terminal expansion (dock,

mooring cells, dredging, or additional moorage or barge loading at this location). Performing the work during low flow conditions would reduce temporary anticipated impacts. Overall, long-term water quality impacts would be minor. ADEM issued a conditional water quality certification for the proposed work on October 31, 2006 (Appendix E). Incorporated by reference in this evaluation, all conditions of that certification would also be a part of any DA or TVA permit issued for the work.

(x) flood control functions and flood plain values. The Tennessee River 100-year floodplain is the area lying below elevation 557.3 MSL at the Nucor terminal location. The top elevation of mooring cells should be at least 5 feet above that elevation to ensure ample moorage of empty barges during a 100-year flood event. The proposed action would involve placing fill below the 100-year flood elevation. Nucor proposes fill for construction of mooring cells and dock expansion. This means that 1081.55 cub yd of fill material would be placed between elevations 550-feet MSL and 558-feet MSL in the Wheeler Reservoir flood control storage zone. This fill would result in the loss of about 1.3 acre feet of power storage and 1.6 acre feet of flood control storage. For this portion of the project, the loss of flood control storage has been minimized while achieving the project objective. The City of Decatur signed and forwarded to Nucor a flood elevation certificate, dated November 2, 2006, indicating that the project meets local floodplain regulations (fill in the floodway, copy in Appendix C).

In regards to plans for dredge spoil disposal, this material would be placed in a wetland area on the Nucor property previously approved and permitted by TVA on May 29, 1997 (see special aquatic sites below). TVA and the Corps believe that there is no practicable alternative to Nucor placing this 120,700 cu yd of spoil material in wetlands, a portion of which occur in the Tennessee River floodplain. Consistent with Executive Order 11988 (Floodplain Management), these are considered to be repetitive actions in the floodplain that would result in minor floodplain impacts. The loss of flood control storage associated with the wetland fill would not be considered because it was previously permitted. Therefore, the project would comply with the TVA Flood Control Storage Loss Guideline. Cut and fill volumes affecting the floodplain are shown in Table 1 below:

Table 1. Cut and fill volumes proposed by Nucor that would affect the 100-year floodplain

Area	Number of Cells (if applicable)	Average Bottom Elevation (feet-MSL)	Cubic Yards below Elevation 550-feet MSL	Cubic Yards between Elevation 550-feet and 556-feet MSL (Power Storage Zone)	Cubic Yards between Elevation 550-feet and 558-feet MSL (Flood Control Storage Zone)
1	2 (new)	538.00	307.86	153.94	205.25
	5 (expanded from 16' to 21' diameter)	538.00	322.86	161.42	215.23
2	6	538.00	923.59	46.181	615.74
Dock Expansion	--	546.00	23.54	34.00	45.33
Totals			1577.85	811.16	1081.55

(x) storm, wave and erosion. The dock expansion would armor the bank with additional sheet piling. The applicant would be required to stabilize the remaining bank, if necessary, should erosion become a problem.

() baseflow. No issues.

3.3 Biological Characteristics and Anticipated Changes.

(x) special aquatic sites (wetlands, pool and riffle areas, sanctuaries, refuges). Preparation of Trico's original steel recycling mill site required disturbance of a 1.98-acre wetland area (1.06 emergent, 0.79 shrub scrub) on 17 acres of former Mallard-Fox Creek WMA land. Trico acquired permission to fill up to 26 acres of emergent wetland with dredge spoil in accordance with a February 25, 1997 Finding of No Significant Impact (FONSI) (Appendix H). Of this original 26 acres, approximately 16 acres remain unfilled. The USACE granted a permit extension on June 12, 2003 and all dredge spoil material from Nucor's proposed excavation would be placed in this approved location. As mitigation for the wetland loss, Trico funded construction of a 213-acre subimpoundment to enhance wetlands, waterfowl, and associated wildlife habitat within the WMA. The effect of conveying 188 acres of TVA land to Trico was mitigated by donation of a 224 acre tract of property to ADCNR. This adjoining property is managed for wildlife and related public recreation as part of the WMA. The benefit of this previously approved and implemented wetland and land transfer mitigation has been determined by TVA and the Corps (with USFWS, U.S. Environmental Protection Agency, and ADCNR concurrence) to be adequate to offset these additional impacts resulting from the current Nucor proposal (Appendices G and H).

(x) endangered or threatened species. Based on a review of the TVA Natural Heritage database and field inspection, federally listed species known to occur in Morgan County include one bird, two mammals, six mussels, and three plants. Because of the impounded reservoir and current disturbed nature of the Nucor barge terminal site, no federally listed species are known to occur in the impact area of this proposal. By letter dated June 20, 2006, the USFWS, in response to PN 06-54, indicated that no federally listed or proposed endangered or threatened species occur within the impact area of the project.

One mussel, the pink papershell (*Potamilus ohioensis*), is known from the immediate vicinity of the proposed dredging and mooring cell construction. This mussel is very common in the majority of the Tennessee River system. In Alabama, pink papershell is restricted to the Tennessee River drainage but, it is not as common in the Alabama portion of the Tennessee drainage as it is elsewhere in its range. The species is considered of conservation concern, but is not formally listed as Protected in Alabama. This species is very tolerant of reservoir conditions, and likely is present in good numbers within Wheeler Reservoir. Some individuals may be affected if they are present in the reservoir bottom areas disturbed, but the project would not affect short-term or long-term viability of populations in the vicinity, within the state, or across the species range. With mitigation to reduce project's affects on water quality, including use of BMPs, the activities proposed do not have the potential to significantly affect pink papershell.

(x) habitat for fish and other aquatic organisms. The mooring cells and dredging activities would displace a limited amount of habitat for aquatic organisms, including common mussels, benthic macroinvertebrates, and have a temporary minor impact on aquatic organisms until the area achieves equilibrium. These organisms are expected to recolonize the disturbed areas in a short time after construction is completed (see Section 3.2, substrate). Following construction, the mooring cells and barges would provide shading, which is a positive benefit to fish and aquatic habitat on the river bottom.

(x) wildlife habitat. Because of current land use, wildlife habitat at the project site is minimal under present conditions. Construction within the impact area would largely be over open water. The mooring cells may provide spots for bird perching and observation of prey for foraging. This reach of the Tennessee River provides some wintering waterfowl habitat, primarily on the opposite shore within the Swan Creek WMA. Management of the adjacent Mallard-Fox Creek WMA is focused on upland small game and non-game wildlife. The upland area at the Nucor site is generally devoid of trees, since it is part of the existing terminal. Vacant and small wooded areas nearby generally provide the same types of habitats. Those wildlife species, adapted to living in disturbed habitats, would likely move to similar habitats a short distance away during construction. If these areas are already inhabited, over time, new species population levels would be achieved and maintained. Some individual animals would likely move onto the adjacent WMA. Benefits associated with the 224-acre land donation to ADCNR and the 213-acre subimpoundment construction offset these minor affects.

(X) biological availability of possible contaminants in dredged or fill material. Only clean, uncontaminated materials taken from upland sites would be used as fill material for the project. Fill material for the docking facility and mooring cells would be clean, crushed aggregate. The disposal of the hydraulically dredged materials to the disposal site would allow for sufficient time for settling suspended solids prior to any release to the Wheeler Reservoir. Regarding dredged spoil materials, testing of river bottom sediment during construction of the 7,000-foot long x 350-foot wide new navigation channel and preliminary studies conducted for construction of new mooring cells (Appendix I – Substrate Data) did not suggest the presence of contaminants.

3.4 Human Use Characteristics and Anticipated Impacts.

() existing and potential water supplies; water conservation. No issues.

(x) air quality. The proposed project has been analyzed for conformity applicability, pursuant to regulations implementing Section 176(c) of the Clean Air Act and it has been determined that the activities proposed under this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the federal continuing program responsibility, and cannot be practicably controlled by the Corps or TVA, and, for these reasons, a conformity determination is not required for a permit.

(x) water-related recreation. Existing recreational facilities in the vicinity include Mallard Creek Recreation Area 293.2L (camping lake access, swimming beach, etc.), Round Island Recreation Area 297.5R (camping and lake access), Mallard-Fox Creek WMA, adjacent and immediately downstream of the project area (1,483 acres designated for hunting, fishing, wildlife viewing, trails, etc.), and Swan Creek WMA, across the river and upstream of the proposed project (8,870 acres designated for hunting, fishing, wildlife viewing, trails, etc.). The Mallard-Fox Creek WMA area is adjacent to the northern boundary of the property. It provides recreational opportunities including fishing, wildlife observation, and hunting. The TVA Mallard Creek recreation area is located approximately 2.7 miles downstream of the site on the Mallard Creek Embayment. This area offer boating access, swimming, and camping opportunities. Also located in this embayment is the Mallard Creek Fish Camp, the closest commercial boat dock to the Nucor site. It provides marine fuel, mooring slips, and grocery supplies. A new lake access facility has recently been developed by the City of Decatur at river mile 203.4L which will provide enhanced river access for the public. The Tennessee River is a popular location for recreational boating and fishing. Additional recreational activities are generally informal and dispersed. These activities occur on both other public and private land and consist of hunting, fishing, wildlife observation, and hiking. The proposed project area (Mallard-Fox Creek Industrial Park) is currently impacted by industrial activities. The proposed terminal expansion does not encroach upon existing land-based recreational facilities and any impact would be minor.

Because of the availability of adjoining recreation land and other nearby land and water on Wheeler Reservoir, impacts to water-based recreational activities will be insignificant. In the past commercial barge traffic has been compatible with recreational boating traffic as long as safe boating regulations are observed.

(x) energy consumption or generation and mineral needs. The basic purpose of the proposed action is to increase recycling of steel products and business expansion. Nucor plans to bring a new facility located in the Caribbean on line in early 2007. The new facility produces DRI and Nucor anticipates shipments of the material to arrive at its Decatur plant by barge via the Tennessee-Tombigbee Waterway beginning in early 2007. The applicant has asserted that there is need for the steel products in this area and there is a market for their efforts. The applicant has also asserted that the present energy supply contract with TVA is sufficient to supply all foreseeable power needs and this project will not impose any new operative needs on TVA's power generation system. The utilization of trucks for DRI delivery would present a significant increase in fuel costs as a single material shipment by 40 barges would carry the equivalent of 2500 trucks.

(x) navigation and safety. Comments regarding navigation were received during the public notice comment period. Decatur is the most active port on the Tennessee River. Of the 18 river terminals on Wheeler Reservoir, fifteen are located within nine miles of the proposed site. Terminals in the Decatur area handle millions of tons of commodities annually transported by water. According to the 1995 report, about 75 percent of these commodities are in-bound from outside of the Tennessee Valley. The proposed expanded terminal facilities would be located of the dredged Finley Island back channel. This access channel has a minimum width of 350 feet and a minimum depth of 11 feet at drawdown elevation 549. This is still adequate for 9-foot draft barges. The additional dredging proposed in the application is for the purpose of better barge maneuverability while fleeing to the mooring cells. By memorandum

dated September 22, 2006, TVA's Navigation Section stated the proposal should not interfere with navigation provided (1) no fleeting interferes with the entrance to the back channel; (2) there would be a minimum of 350 feet between fleeting areas so as not to encroach upon the dredged limits of the back channel; (3) fleeting does not extend upstream beyond Nucor's extended property line or downstream into the marked channel beyond the junction buoy; and (4) there is at least 10 feet of working depth at the minimum pool elevation 550.5, 11 feet is preferred.

Currently, the applicant offloads scrap iron and loads steel products from the existing dock (at this location), which would be expanded by the proposal. The terminal is located in a back channel portion of the river generally used only by Nucor and ITC and one other company in the future. At this time, ITC has unrestricted access to the main river by traveling out of their port to the upstream. Any permit issued for the work would require that the expansion not encroach onto ITC's property. With proper safe boating during maneuvering at the site, navigation in the maintained channel should not be adversely affected by the proposed terminal.

Decatur Mooring Cell Project: TVA and the Corps are cooperating in the building of two public mooring cells which would be located at along the left (descending) edge of the navigation channel at TRM 296.8. The Corps is planning to start construction in spring 2007. These cells are needed to temporarily moor barges waiting to enter the port of Decatur because of congestion due to greatly increased barge traffic since 2003. The project has been in the planning since late 2004 but has been delayed because construction crews have been occupied with projects at Kentucky Dam and Wilson Dam. The two sheet piling cells would be 30 feet in diameter and would be placed 390 feet apart. The piling would be driven into the river bed and would then be filled with clean rock. Depending on the soil properties of the overburden material inside the cell, the overburden material may be dredged and spoil disposed of at a permitted upland site. The Corps is leading the planning and design efforts and providing funding while TVA is leading the environmental review and document preparation.

Preliminary environmental review results, including sediment sampling and analysis and a mussel survey, have indicated no contamination of sediments and no sensitive environmental resources occur in the project impact areas. Best management practices would be used to minimize sediment disturbance and dispersal. Because the construction of the proposed cells is to be later than the construction of the Nucor fleeting area, there would be no simultaneous adverse impacts of the two projects. No significant cumulative impacts from either project on the other are anticipated. With the additional traffic due to the Nucor fleeting area there would be additional benefit to navigation from the public cells.

(x) traffic/transportation patterns. While the majority of materials moved at the terminal is by barge and railroad, truck traffic would continue to utilize the existing plant highway access via I-65 and US 72 Alternate, a four lane arterial that traverses the northwest corner of Alabama in an east-west direction between Decatur and Florence. The barge terminal expansion would accommodate the expected raw material shipments from the Caribbean, but is also expected to reduce the number of trucks necessary for transportation of raw materials and products. A single material shipment of DRI by 40 barges corresponds to 2500 truckloads removed from the highway system. The project would accommodate the projected 40% increase in barge traffic, with a corresponding decrease in traffic from truck and rail, according to information provided by the applicant (Appendix C). Concurrently, fleeting and mooring of additional barges would accommodate shipments of finished product from Nucor.

(x) aesthetics. An expanded terminal at this location would be consistent with use of the Tennessee River along this stretch of waterway. TVA made this land and location available for industrial development, which is the purpose of the expanded facilities. Existing barge terminals and shoreline industrial operations are readily visible within the foreground viewing distance. Temporary and long-term visual discord associated with the construction and operation of these proposed elements to include increases in industrial traffic in the vicinity would be viewed in context with the existing industrial operations which are presently visible and would be minor. In compliance with US Coast Guard regulations, the additional facilities would be lighted and marked. It is recommended that any lighting not specifically required for navigation safety be equipped with full cutoff features which limit the amount of waste light produced at a vertical angle of 80 degrees above the lowest light emitting portion of the luminaire.

(x) noise. By nature of the activity, noise associated with barge loading and maneuvering already occurs at the site and in this industrial park. Any additional increase in noise attributed to the new facilities would be minor and insignificant. There would be a temporary increase in noise during construction associated with expansion of the terminal. Work would be performed during daylight hours. Equipment would be limited to small machinery operating within normal ranges expected for construction equipment. Since the work would occur during the fall and winter some minor disturbance to wintering waterfowl and waterbirds would occur. However, most habitat and concentrated use by these birds occur on the opposite shoreline in the Swan Creek WMA.

(x) historic properties and cultural values. By letter dated September 1, 2006, the AHC indicates that it has determined that the project activities will have no effect on any known cultural resources listed on or eligible for the NRHP (Appendix B). According to the June 1995 TVA EA, (Appendix G), a cultural resource assessment conducted by the University of Alabama in January 1995 found no sites eligible for inclusion on the NRHP on or in the immediate vicinity of the site.

(x) land use classification and consideration of private property. Heavy industrial development occurs south and east of the project site. The site is in the Mallard-Fox Creek Industrial Park within the limits of the City of Decatur and has been zoned for industrial use. Land use to the north, across the river, and west of the site is primarily land in forests, wetlands, and upland agricultural fields under the management of ADCNR as wildlife management areas. TVA is the principal landowner in the immediate vicinity. Private open farmland and sparse residential use occurs south of the main Nucor plant property. Scattered rural residential development occurs along US 72A/State Route 20 near the Trinity community, but no other developed residential areas are in the immediate project area. The nearest waterfront residential development is located 1.6 miles to the northwest. TVA acquired all the shoreline and inundated land in the vicinity for the impoundment of Wheeler Reservoir. The Mallard-Fox Creek Industrial Park and port is located on land TVA made available for industrial development. The inundated land affected by the proposed facilities is currently TVA property. Due to the unusual nature of this proposal that include extensive areas of offshore barge mooring with related facilities, TVA concluded that it would be in the public's interest to require Nucor to obtain additional land use authorization for its barge fleeting areas. It was further concluded in review of the original proposal that the agencies anticipated the importance of future demand for industrial waterfront access. As modified, the project would not infringe on the abilities of future nearby industrial property owners to make full use of their waterfront and access to the navigation channel.

(x) economics. The proposed improvements would benefit the applicant by allowing them to expand their business and save time and money with deliveries of processed material and steel products by barge. The property values of the land would likely increase as a result of constructing these new facilities. Nearby and adjacent companies in the industrial park may benefit and or experience competition from the improved services. The company already employs a large local work force and the new and improved facilities would allow that to continue. This project represents a \$1.5 million investment in capital and labor. The project is anticipated to create 56 jobs during construction, and 4 long term positions. Nucor currently employs many employees with higher than average annual salaries. This expansion would provide for revenue increases to the local government from taxes on increased product sales. In addition, Nucor may employ local crews and skilled labor or new crews may move into to the area which would increase the economic benefit to the county.

() food and fiber production/ conservation. No issues.

(x) environmental justice. The project has been reviewed with respect to environmental justice. The proposed project would occur within an existing industrial park site and not have disproportionate environmental effect on any segment of the population.

3.4 Cumulative and Secondary Impacts. This section considers what actions by others (including those actions completely unrelated to the action) have and will affect the same resources affected by the proposed action. Cumulative environmental effects for this action are assessed in accordance in accordance with USEPA 315-R-99-002, dated May 1999. *In this case, a subjective five-year focus period for reasonably foreseeable future actions on the river and uplands in the vicinity of the proposed action, both by the applicant and by others includes:*

- Competition in the industrial delivery and business in the area
- Additional deliveries of steel products to the area; continued business and employment
- Other companies with similar terminal needs locating in the immediate area
- Construction of future improvements by this company at same location
- Growth in users of the specific section of river attracted by the new services
- Employment and related increases in population in the area

Future associated work in the vicinity of the site can be identified as cumulative or secondary impacts; however, determining the magnitude and significance of cumulative effects; modifying to avoid, minimize or mitigate significant cumulative effects, and planning for monitoring and adaptive management would have to be addressed on a case-by-case basis. While there would be permanent impacts on the shoreline; given the relatively small area of impact, past and present uses of the site, and the relatively low physical and biological functions present in the impact area, the proposal is not anticipated to have a significant cumulative or secondary effect upon the existing environment and sustainability of important resources would not be adversely affected.

CHAPTER 4.0 ALTERNATIVES

4.1 Introduction. This section discusses alternatives as required by 33 CFR 320.4(a)(2). The relevant environmental issues identified were used to formulate the alternatives. The alternatives that were given detailed consideration are listed below.

4.2 Description of Alternatives.

a. No Action. This alternative would result in denial or withdrawal of the applicant's request to construct the additional barge terminal facilities at the proposed location.

b. The Proposed Action. Nucor's final September 12, 2006 proposal consists of expanding an existing barge terminal by the construction of new mooring cells, extending a loading dock, and dredging, as shown in the revised plans (Appendix C), and described as follows:

Area 1– Nucor now proposes to dredge 57,136 cub yd of river bottom and constructing two (2) mooring cells (expansion of current 16 barges/5 mooring cells to 50 barges/7 mooring cells) in Area 1.

Area 2 – Nucor now proposes to dredge 63,564 cub yd of river bottom and constructing six (6) mooring cells with fleeting for 37 barges in Area 2.

Dock facilities - Nucor would now expand its existing dock from 350 feet to 890 feet by adding 150 feet to the west end and 390 feet to the east end. Nucor would also construct a 50-foot x 60-foot scrap barge unloading dock.

Fill – Nucor proposes to deposit additional fill for construction of mooring cells and dock expansion. 1081.55 cub yd of dredge spoil would be placed between elevations 550-feet MSL and 558-feet MSL in the Wheeler Reservoir flood control storage zone. This fill would occupy 54 cu yd below 556 feet MSL, 23 cu yd between elevations 556 feet and 560 feet MSL, and 2445 cu yd above 100-yr flood elevation (see Table 1). The designated spoil disposal site is located in a wetland area on the plant site for which Trico (now Nucor) has obtained permission to fill. Impacts of the Trico proposal and subsequent plant and barge terminal construction and operation were assessed in previously prepared EAs and wetland losses mitigated in accordance with a February 25, 1997 FONSI (see Appendix G). The required mitigation has been accomplished (see flood control functions and flood plain values and special aquatic sites sections above). In addition, the proposal includes a request for authorization to use approximately 12.4 acres of inundated TVA land.

c. Mitigation to Proposed Action. In accordance with CFR 320.4(r), our review of the proposed action has revealed mitigation measures typical for activities of this nature, which would reduce environmental impacts of the proposed action. This alternative would be composed of the applicant's revised proposal as described in b. above with the inclusion of the conditions included in Section 5.4.

4.3 Comparison of Alternatives.

a. No Action. Under this alternative, the applicant would not install the proposed mooring cells, dredge, or expand the loading dock at this location. Fleeting and barge maneuvering would likely be continued at and in the vicinity of the existing mooring cells. The existing dock would continue to be utilized. None of the benefits to the applicant or the community from the improved terminal facilities would occur.

b. The Proposed Action. Currently, the applicant unloads scrap iron and steel from an existing service dock (along about 350 feet of riverbank at this location) which would be expanded to 890 feet by the proposal. The applicant currently has five mooring cells at the terminal. The proposal involves the construction of eight more mooring cells, dredging, and obtaining additional TVA authorization to occupy offshore fleeting areas. No properties listed in or eligible for the NRHP would be affected. No federally listed species would be impacted. The proposed action would cause no long-term adverse impacts on aesthetics, air or water quality, or aquatic or terrestrial ecology. Minor wetland impacts at the dredge spoil disposal site have been mitigated by Trico. Nucor would enhance its business with expanded facilities. The proposed action would be consistent with other terminals on the river in this area. This site has been inspected from the land and from the river.

The applicant has reduced the proposal to address general public and adjacent property owner issues and TVA issues brought forward during the public notice comment period. To avoid interfering with navigation through the dredged back channel, Nucor has designed their fleeting areas to provide at least 350 feet between fleeting Areas 1 and 2, and the fleeting in Area 2 would not extend upstream beyond Nucor's extended property line. Formerly proposed Area 3 would not be constructed. Furthermore, no fleeting would occur on the upstream face of the most lakeward mooring cell. The top elevation of mooring cells would be at least 5 feet above that elevation to ensure ample moorage of empty barges during a 100-year flood event. After dredging there would be at least 10 feet of working depth at the minimum pool elevation 550.5 MSL. Concerns brought forwarded during the public notice period have been addressed. The proposal would bring about overall benefits to the area, causes and continues local employment and tax revenues, and meets the desired needs of the applicant.

c. Applicant's Proposal with Special Conditions. The impact of this proposal would be similar to the description in b. above. The addition of special permit conditions would require that the work be constructed in a manner that would minimize adverse impacts to the environment and navigation interests. This alternative would have the least impacts of the options under consideration. If appropriate mitigation measures are implemented, impacts to the environment and navigation would be further minimized.

5.0 Findings

5.1 Consideration of Comments. The public has had a meaningful opportunity to be heard. The comments received during the public comment period have been addressed. Comments were received from the USFWS and the AHC that do not oppose permit issuance. Comments were received from Edwards, Mitchell & Reeves Counselors at Law, on behalf of ITC – an adjacent landowner, and three individuals who are opposed to permit issuance and requested that a public hearing be held. The applicant addressed the issues raised and reduced the scope of the project, by submittal of a revised application. The opposing parties both received copies of the reduced scope of work and were asked to provide further comments. No further comments were received. As described in the memorandum, dated December 1, 2006, in Appendix J, the public has had ample opportunity to express their views through the solicitation of comments from the Public Notice and through the public interest review process. Since the applicant has reduced the scope of work to address issues raised during the public interest review period and the reduced plan was coordinated with the opposing parties, a public hearing is not likely to provide additional information that would assist in reaching a final decision on the permit request. Therefore, it has been decided not to hold a hearing. The requesting parties will be advised of this decision.

5.2 Water Quality Certification from the ADEM, Division of Water in accordance with Section 401(a)(1) of the CWA is required for this activity and was issued conditionally on October 31, 2006. A copy of the certification, Appendix E, would be made a part of any permit issued for the proposed work, by reference.

5.3 Section 404 (b)(1) Determination. The purpose of Section 404(b)(1) of the CWA is to restore and maintain the chemical, physical, and biological integrity of the waters of the US through the control of discharges of fill material, as published in 40 CFR 230. Section 230.10 requires that the discharge of fill material into waters of the US associated with the proposed work meet certain restrictions in order to be authorized: (a) there are no other practicable alternatives to the proposal that would have less adverse impacts on the aquatic environment, (b) the discharge would not adversely impact water quality, violate state water quality or toxic effluent standards, or jeopardize the continued existence of a threatened or endangered species as identified under the ESA, (c) the discharge would not cause or contribute to the significant degradation of waters of the US, and (d) the project would minimize, to the extent possible, the adverse impacts on the aquatic environment. Based on the probable impacts addressed above, compliance with the restrictions, and information concerning the fill materials to be used, the proposed work complies with the Guidelines and the intent of Section 404(b)(1) of the CWA. An evaluation of the guidelines is attached in Appendix F.

5.4 Recommended Special Permit Conditions. The following recommended conditions are typically included in most permits, and are necessary to comply with federal law, while affording appropriate and practicable environmental protection.

1. The work must be in accordance with any plans attached to this permit. The permittee must have a copy of this permit available on the site and ensure all contractors are aware of its conditions and abide by them. *Justification: Ensure compliance and Recommended at 33 CFR 325, Appendix A.*

2. The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the US. *Justification: Recommended at 33 CFR 325, Appendix A.*
3. The dredging and construction activities will occur during low winter pool elevations, typically during the months of November through March. *Justification: To minimize turbidity and recommended by US Fish and Wildlife Service.*
4. The permittee shall complete and return a Navigation Data Sheet to DA its Nashville office at least two weeks prior to commencement of any construction activity in the waterway. *Justification: To notify the CE and the commercial towing industry of a temporary potential waterway hazard.*
5. The permittee must install and maintain, at their expense, any safety lights and signals prescribed by the United States Coast Guard, through regulations or otherwise, on the authorized facilities. The work barges, floating plant, and/or vessels required in the river for construction must display proper lights and signals as required by the current Inland Navigation Rules. *Justification: To ensure the construction activities comply with the USCG regulations.*
6. The floating plant during the dredging and construction activities must be positioned so as to maintain at least a 300' horizontal clearance in the navigation channel at all times and where all traffic can pass with little to no delay. *Justification: The floating plant and associated activities may cause a navigation hazard and not be able to escape soon enough to avoid an accident if this amount of passing clearance is not maintained during construction.*
7. No fleeting shall occur on the upstream face of the most lakeward mooring cell in Area 1. *Justification: So as not to interfere with entrance to the back channel.*
8. There must be a minimum of 350 feet between fleeting Areas 1 and 2. *Justification: So as not to encroach upon the dredged limits of the back channel.*
9. Fleeting in Area 2 shall not extend upstream beyond Nucor's extended property line or downstream into the marked channel beyond the junction buoy. *Justification: So not to encroach on ITC property.*
10. The applicant is advised in writing that the facility will front on a commercial navigation channel at a location which makes the facility and any moored vessels vulnerable to wave wash and possible collision damage from passing vessels. *Justification: Recommended at 33 CFR 325, Appendix A.*
11. The 100-year flood elevation at this site is estimated to be 557.3 feet above MSL. The top elevation of mooring cells must be at least 5 feet above that elevation. *Justification: To ensure ample moorage of empty barges during a 100-year flood event.*
12. The terminals shall have at least 10 feet of working depth at the minimum pool elevation 550.5 MSL, 11 feet is preferred. *Justification: Adequate water depths for safety in barge maneuvering.*

5.5 Findings of No Significant Impact (FONSI). Based on a full consideration of the EA and information obtained during the public interest review, I have concluded that issuance or denial of the requested permit would not constitute a major federal action that would significantly affect the quality of the human environment. This constitutes a FONSI; therefore, the preparation of an Environmental Impact Statement is not required. This FONSI was prepared in accordance with paragraph 7a of Appendix B, 33 CFR 325.

5.6 Public Interest Determination. I have weighed the potential benefits that may be accrued as a result of the proposed action against its reasonably foreseeable detrimental effects and conclude that permit issuance would not be contrary to the public interest. The general conditions contained within the DA permit together with incorporating the recommended special conditions adequately address the environmental concerns identified in this document.

FOR THE COMMANDER:

12-5-06

Date



Bradley N. Bishop
Chief, Eastern Regulatory Section
Operations Division